

Bacillus thuringiensis intoxication in Lepidoptera. Ingested toxins are solubilized and activated in gut environment (a). Activated toxin binds to cadherin midgut receptor on apical surface of midgut membrane (b). Two proposed mechanisms resulting in cell death both involve cadherin. The pore formation model, involves formation of oligomers (c) and binding to co-receptors (amino peptidase, alkaline phosphatase, or possibly glycolipids) in membrane lipid rafts. Oligomers form channels or pores in midgut membrane, thereby disrupting ionic potential in midgut cells and eventually lyse due to disrupted osmotic pressure (e). In the cell signaling mechanism, monomeric toxin binds cadherin (f), which activates an G-protein-mediated intracellular signaling pathway (g) that ultimately ends with cell death (e).

Toxin mode of action - How we think it works in Leps

